UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,391	02/12/2004	Robert M. France	1014-076US01/JNP-0326	5773

72689 7590 12/08/2009

SHUMAKER & SIEFFERT, P.A
1625 RADIO DRIVE , SUITE 300
WOODBURY, MN 55125

EXAMINER	
LAI, ANDREW	

ART UNIT	PAPER NUMBER
2473	

NOTIFICATION DATE	DELIVERY MODE
12/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pairdocketing@ssiplaw.com

Continuation of PTOL-303, Item 11 under "Request for Reconsideration/Other"

Response to Arguments

1. Applicant's arguments filed 11/19/2009 after Final Rejection of 8/19/2009 have been fully considered but they are not persuasive.

Applicant presented Remarks regarding the final rejection. Applicant's Remarks are drawn to the following issues: 1. universal classification mechanism, 2. CoS (Class of Service) information within the packet, and 3. Kuhl's CLP bit and result of combination of references.

Among said three issues, Examiner in fact addressed the first two in the said final rejection. Hereinbelow, Examiner respectfully present further response to the first two issues, since Applicant presented some new arguments thereto, as well as a full account of the last issue.

Issue 1: *universal classification mechanism*

Applicant argues (Remarks page 2): "the applied references lack any teaching to suggest a method comprising storing, within the network device, intermediate class of service (CoS) information that provides a ***universal*** classification mechanism ***independent*** of: (i) ***any layer two protocols*** used within the network, and (ii) protocols of layers on top of layer two protocols used within the network" (emphasis original). And on page 3, Applicant states, in reference to Kuhl's figures 5 and 7, "The intermediate classification mechanism described by Kuhl to map between ATM and MPLS is therefore a ***protocol-specific*** classification mechanism that is dependent on and specified includes a layer-two ATM protocol CLP bit." (emphasis original).

Examiner respectfully disagrees. In addition to what provided in the final rejection to address the same issue, Examiner would like to point out the following.

Firstly, the Applicant appears to have mixed up two concepts together: 1) intermediate class of service as a universal classification mechanism, and 2) the mapping policies for mapping ingress CoS to the intermediate CoS and the intermediate CoS to egress CoS. When the limitation of *universal classification mechanism* is examined, it is examined within the context of *intermediate CoS* that is *independently set*, or in other words, has its own CoS levels set. However, these levels of intermediate CoS levels are used, as Applicant claimed, for "*mapping the first CoS information to the intermediate CoS information based on the class of service determined for the packet; mapping the intermediate CoS information to a second CoS information*", which means the so-called *universal classification mechanism* reflected in the *intermediate CoS* will be used according to certain policies that would do the mapping wherein the policies will have to be tied with the particularities of ingress (or in Applicant's claim language *first*) *CoS* and the particularities of egress (or in Applicant's claim language *second*) *CoS*; otherwise the so-called *universal classification mechanism* reflected in the *intermediate CoS* will be useless regardless how universal it is. In other words, when reading the claim as well as applied references, the two concepts (i.e., "universality" of intermediate CoS levels and "particularity" of mapping using the intermediate CoS levels) should be clearly understood as being different concepts that are however interconnected. This can be analogized to an easily understood daily life example wherein a "host family" puts guests coming from nine front doors into eight guest rooms and then send them out of

four back doors. The eight "guest rooms" are built in the house as a "universal" mechanism, which will not change regardless how many front/back doors the house has, but the "host family" will have to set certain "particularities" regarding how to put the guests coming in from the nine front doors into the eight "guest rooms" and the "particularities" regarding how to send the guests put in the eight "guest rooms" out of the four back doors, keeping in mind that the number of front doors can be for example 4 and the number of back doors can be for example 9 and they would affect the "particularities" of how to put the guests in the rooms and send them out but not the fact that the house has 8 rooms to receive guests and send them out.

Now, coming to Kuhl's figures 5 and 7, these are illustrations of eight levels of internal or intermediate CoS (number of rooms in above "host family" analogy). This is the *universal* part of Kuhl's teaching regardless of how many levels of ingress ATM CoS levels (number of front doors in above "host family" analogy), which is in fact nine as clearly shown figure 5, and how many levels of egress MPLS CoS (EXP values, number of back doors in above "host family" analogy), which is in fact four for CLP = 0 (levels 0, 2, 4 and 6) and four for CLP = 1 (levels 1, 3, 5 and 7) as clearly shown in figure 7.

Additionally, Examiner would like to point out, as the Examiner did in said final rejection, that Applicant's Specification clearly suggests that the so-called *universal mechanism* has to be tied to particularities of ingress/egress CoS by teaching (Specification page 13 [0059]) "For exemplary purposes, FIG. 5 illustrates application of a first polity to the packet via an egress interface card, e.g., IFC 52N, However, IFCs 52 may apply more than two polities as the packet is processed ..." (emphasis added); and

also in fig. 5, step 86 states clearly "apply policy to generate intermediate CoS information" (emphasis added). Here it is clear and explicit that the *intermediate CoS*, providing the so-called *universal classification mechanism*, depends on policy or policies, which as understood by one skilled in the art, must be specific to what packet is being received and what packet it should be translated to, which is even said by the Applicant in that "For example, IFC 52A may apply an IP-specific policy to generate the intermediate CoS information..." (Specification page 12 [0057]). This is further reflected in Applicant's claim 11 reciting "*wherein the first CoS information and the second CoS information each comprises one of Internet Protocol (IP) Type of Service (ToS) information, Multiprotocol Label Switching (MPLS) experimental (EXP) bits, Virtual Local Area Network (VLAN) user priority information ...*".

In summary, Kuhl provided teaching of *universal classification mechanism* of using *intermediate CoS information* of eight levels as well as the policy particularities of how to use said eight levels for mapping ATM to MPLS and vice versa.

Issue 2: CoS info *within the packet*

Applicant argues (Remarks page 4) "Kuhl in view of the other references lacks any teaching to suggest accessing the first CoS informatioin ***with the packet*** to determine the class of service for the packet and mapping the first CoS information to the intermediate CoS information based on the class of service determined for the packet... Kuhl only teaches to mapping ***connectioin-level*** service categories to a class of service" (emphasis original). Further, Applicant argues (Remarks page 5) "Applicant is not arguing as to whether Kuhl teaches to Accessing first CoS information within the packet, but to mapping first CoS information stored within the packet to intermediate CoS information. Kuhl teaches to mapping ATM service categories defined when establishing an ATM connection to class of services. These service categories are not included within the packet but related to a network

connection as a whole... Even when combined, the teachings of Kuhl in view of the other references [particularly Raychaudhuri - Examiner notes] still require a mapping that is based on connection-level CoS information as this is the only intermediate mapping solution taught by the references, either individually or in combination... The Kuhl solution teaches away from mapping packet-level or first CoS information stored within the packet to intermediate CoS information."

Examiner respectfully disagrees. In addition to what provided in the final rejection on this issue, Examiner would like to add the following.

True, Kuhl teaches connection-level instead of packet-level CoS mapping. But Kuhl does teach mapping first CoS associated with ingress packet/cell to intermediate CoS and mapping the intermediate CoS to second CoS associated with egress packet/cell. The only difference is where Kuhl gets the first CoS from. Therefore, the issue in fact is not regarding the mapping part, as Applicant appears to be arguing, but where the original CoS comes from for said mapping. While Kuhl obtains the first CoS from a connection, it is obvious to one skilled in the art to modify Kuhl by obtaining it from ingress packet/cell itself, as long as obtaining CoS from ingress packet/cell is taught in the art at the time of the instant invention, keeping in mind the Kuhl has provided mapping it to intermediate CoS and eventually to egress CoS – all aspects of mapping mechanism is already in place based on Kuhl. Then, obtaining CoS from ingress packet is clearly taught by Raychaudhuri, as clearly established in the final rejection. As a matter of fact, obtaining CoS information ***within*** or embedded/encoded in *a packet* (note: it is not mapping such) has been a conventional technique that even the Applicant already admitted in exist (which Examiner pointed out in the final rejection) as Applicant's Specification page 2 first paragraph said "Examples CoS information used by

conventional protocols includes IP Type of Service (ToS), MPLS experimental (EXP) bits, VLAN user priority, and IPv6 traffic class. Typically, CoS information is encoded within the header information associated with each packet" (emphasis added).

It is therefore obvious to one of ordinary skill in the art at the time of the instant invention to modify Kohl by adding packet-level CoS (note again not the part of mapping), as either Applicant admitted or Raychaudhuri taught, in order to provide an enhanced system that is able, as Raychaudhuri stated, "to enable other wireless network functions" (Raychaudhuri, col. 5 line 35-36) and further to provide "an integral part of a high-speed ATM network with unified wired and wireless services via standard ATM network and signaling/control layers, augmented to support mobility" (Raychaudhuri, col. 1 lines 48-51). This obviousness can also be easily seen in above said "host family" analogy. Kohl's teachings analogizes to putting guests into the eight rooms (intermediate CoS) based which one of the nine front doors they come in, let's say a particular door signifies the age range of the guests entering the door (ingress connection-level CoS). It is only obvious to the "host family" to modify its "hosting" system by having each guest carry an "age tag" (packet-level CoS), as Applicant admitted or Raychaudhuri taught, and then afterwards performing exact the same arrangement of the guests into the rooms as the "door-based" room arrangement – nothing else needs to be changed in terms of the room arrangement.

Issue 3: Kuhl's CLP bit and result of combination of references

Applicant argues (Remarks page 6) "Kuhl system does not map the CLP bit included within ATM cells but instead ***directly copies*** the CLP bit to the internal cells" (emphasis added).

While agreeing to this statement, the Examiner would like to point out that Kuhl's CLP, embedded in the ATM cell, acts only as a secondary factor in Kuhl's mapping. The essence of Kuhl's mapping is first, see figure 5, mapping the various ATM CoS, nine of them including CBR, rtVBR/nrtVBR with different flavors, ABR and UBR, into eight levels of internal CoS. In this first mapping, CLP bit does not even come into play but is copied in preparation for the second mapping. In the second mapping, see figure 7, the eight levels of internal CoS is respectively mapped, depending on the CLP (= 0 or 1), to four levels of MPLS EXP (CoS) levels. Still in the above used "host family" analogy, Kuhl's using CLP to help for egress mapping can be analogized to the "host family" using a "finer tuning" when sending guests in the eight "guest rooms" out of the back doors by adding a "gender" tag to the guests but it does not change the essence of arranging to sending them out of different doors per the "host family's" egress policy, so to speak.

Therefore, arguing over how the CLP is copied is substantially irrelevant because the essence of Kuhl's mapping is first CoS mapping to internal CoS and then to second CoS with the help of CLP. It should be noted also that the claimed language is "comprising", which means that other secondary element for said mapping is not excluded as long as what is claimed is taught by the references, which has been clearly shown in Kuhl's figures 5 and 7 and associated descriptions throughout the Specification thereof. In fact, arguing over the CLP only demonstrates that Kuhl provided, for CoS mapping, richer features (or in terms of claim limitations, narrower scope) that comprises what Applicant claimed. Furthermore, even on the issue of

directly copies, it still teaches the limitation of *mapping* because a mapping can be one-to-one, one-to-many and many-to-one, as well known to one skilled in the art.

Based on above substantially irrelevant argument over CLP, Applicant continues by alleging "the literal intermediate mapping solution of Kuhl copies packet-level information from the input ATM cell to the internal cell, the combination of Kuhl and Raychaudhuri would result in a combined system that copies the embedded Raychaudhuri service type from the ATM header to the internal cell in accordance with the teaching of Kuhl" and concluding "even if the teachings of Kuhl and Raychaudhuri were combined, the resultant system would still not achieve the invention set forth in Applicant's claim 1."

Examiner respectfully disagrees.

As stated above regarding Issues 1 and 2, Kuhl has provided the mechanism of mapping first (ATM) CoS of various flavors, nine of them, to internal CoS, eight of them which are set independently, and then mapping the eight levels of internal CoS to second CoS, four of them with respective CLP. The only limitation Kuhl does not expressly teach is that the original ingress or first CoS comes from the ingress packet/cell. When one skilled in the art utilizes Kuhl in view of Applicant admitted conventional technique or Raychaudhuri explicitly taught art of embedding ATM CoS in an ingress cell, it is obvious to the one skilled in the art to modify Kuhl, only in terms of obtaining the ingress CoS from ingress cell but **not** anything else such as the mapping technique, by adding Raychaudhuri or Applicant admitted art, which would have achieved exactly what Applicant claimed and it has the benefit provided at least by Raychaudhuri as stated in the final rejection as well as repeated above when discussion Issue 2.

Lastly, Examiner noticed that Applicant presented some scattered arguments/remarks here and there in the Remarks, which are all related to above discussed three issues or the combination thereof. Said scattered arguments/remarks are therefore deemed to have been addressed by virtue of above responses.

To conclude, Applicant's arguments are not persuasive to put the claimed features in condition for allowance and thus will not be, respectfully, entered.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW LAI whose telephone number is (571)272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lai/
Examiner, Art Unit 2473

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473